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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,753	03/08/2001	David John Richardson	DYOUP0210US	8260

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EXAMINER	
NGO, HUNG NHAT	

ART UNIT	PAPER NUMBER
2633	6

DATE MAILED: 04/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/802,753	DAVID JOHN RICHARDSON ET AL	
	Examiner	Art Unit	
	Hung N Ngo	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-3, 6, 7, 11-13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsao et al (6,504,969) in view of Kawai et al (5,986,789) and Chraplyvy et al (5,559,920) and Munroe et al (6,313,771).

Tsao et al discloses a method of decoding an encoded optical signal comprising: (a) receiving an optical signal (Fig. 1b); (b) decoding the encoded optical signal with a decoder (Fig. 2) to generate a decoded optical signal having an autocorrelation peak and an adjacent background component (lines 15-25 of column 1).

2. Tsao et al does not discloses "supplying the decoded optical signal to a non-linear optical element such that the autocorrelation peak has an intensity above a non-linear threshold of the non-linear optical element and the background component has an intensity below the non-linear threshold, thereby to enhance the autocorrelation peak relative to the background component". However, it is well known in the art to provide non-linear optical elements along optical transmission line, such as optical amplifiers, equalizers and compensation means, including at the input port of the receiver to compensate the impairments and disturbances to the optical signals caused by the transmission channels or modulation and to maintain the desired optical power (see Kawai et al (5,986,789) and Chraplyvy et al (5,559,920)). Therefore, it would have been obvious to one of ordinary skill in the art to provide non-linear optical elements along

optical transmission line, such as optical amplifiers, equalizers and compensation means, including at the input port of the detector 4 in Tsao et al apparatus to compensate the impairments and disturbances to the optical signals caused by the transmission channels or modulation and to maintain the desired optical power. It has been long recognized in the art that intensity of autocorrelation peak is desirably to be substantially larger than the peak of background components to increase signal to noise ratio (lines 15-25 of column 1 of Tsao et al). Therefore, choosing the peak of autocorrelation above threshold of the non-linear optical element and the peak of background components below threshold of the non-linear optical element would be obvious to one skill in the art. Non-linear loop mirror and semiconductor optical amplifier as optical amplifier are well known optical amplifier means and the applicant admits these amplifier means do not have advantages over other optical amplifier means (see lines 24-28 of page 4 of the specification); therefore, using specific optical amplifier means recited in claim 2 or claim 3 do not patentably distinguish over the references.

3. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munroe et al (6,313,771) in view of Kawai et al (5,986,789) and Chraplyvy et al (5,559,920) and Munroe et al (6,313,771).

Munroe et al discloses a method of decoding an encoded optical signal comprising: (a) receiving an optical signal (Figs. 5); (b) decoding the encoded optical signal with a decoder (Fig. 7) to generate a decoded optical signal having an autocorrelation peak (803, Fig. 8) and an adjacent background component (807, Fig. 8).

4. Munroe et al does not discloses "supplying the decoded optical signal to a non-linear optical element such that the autocorrelation peak has an intensity above a non-linear threshold of the non-linear optical element and the background component has an intensity below the non-linear threshold, thereby to enhance the autocorrelation peak relative to the background component". However, it is well known in the art to provide non-linear optical elements along optical transmission line, such as optical amplifiers, equalizers and compensation means, including at the input port of the receiver or a detector to compensate the impairments and disturbances to the optical signals caused by the transmission channels or modulation and to maintain the desired optical power (see Kawai et al (5,986,789) and Chraplyvy et al (5,559,920)). Therefore, it would have been obvious to one of ordinary skill in the art to provide non-linear optical elements along optical transmission line, such as optical amplifiers, equalizers and compensation means, including at the input port of the detector 711 in Munroe et al apparatus to compensate the impairments and disturbances to the optical signals caused by the transmission channels or modulation and to maintain the desired optical power. Munroe et al further discloses intensity of autocorrelation peak is substantially larger than the peak of background components (Fig. 8). Non-linear loop mirror and semiconductor optical amplifier as optical amplifier are well known optical amplifier means and the applicant admits these amplifier means do not have advantages over other optical amplifier means (see lines 24-28 of page 4 of the specification); therefore, using specific optical amplifier means recited in claim 2 or claim 3 do not patentably distinguish over the references.

5. Munroe et al discloses the decoder comprising a refractive index modulation induced grating (DFBG, Fig. 7), and circulator (727,729). The encoded optical signal is a spread-spectrum encoded optical signal (Fig. 5) and an OCDMA (column 1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung N Ngo whose telephone number is (703) 308-0297. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703-305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Hung N Ngo
Primary Examiner
Art Unit 2633

hn